

IN THE CLAIMS:

Please amend claim 15 as set forth herein:

1. (Previously Presented) A method of manufacturing a bit line, the method comprising the steps of:

successively forming a conducting layer and an insulating layer on a substrate, the conducting layer serving to form a bit line;

forming a photoresist film on the insulating layer;

etching the photoresist film using a photolithography process so as to form a first mask pattern on the insulating layer in such a manner that a desired region of the insulating layer is exposed;

etching the first mask pattern by an isotropic dry etching so as to form a second mask pattern, wherein the isotropic dry etching is carried out with plasma dry etching equipment, which uses a microwave energy source;

removing the insulating layer by a first anisotropic dry etching using the second mask pattern;

removing the second mask pattern; and

etching the conducting layer by a second anisotropic dry etching using the remaining insulating layer, so as to form the bit line.

Claims 2-4 (Canceled).

5. (Previously Presented) The method as claimed in claim 1, wherein the isotropic dry etching is carried out while oxygen gas is supplied.

6. (Original) The method as claimed in claim 5, wherein the isotropic dry etching is carried out while CF₄ gas is supplied, in addition to the oxygen gas.

7. (Original) The method as claimed in claim 5, wherein the oxygen gas is supplied at a flow rate of 350 to 450 sccm.

8. (Original) The method as claimed in claim 5, wherein the oxygen gas is supplied at a flow rate of 800 sccm.

9. (Previously Presented) The method as claimed in claim 1, wherein the isotropic dry etching is carried out using a source of power of less than 400 Watts.

10. (Previously Presented) The method as claimed in claim 1, wherein the isotropic dry etching is carried out using a source of power of 200 to 300 Watts.

11. (Previously Presented) The method as claimed in claim 1, wherein the isotropic dry etching is carried out using a pressure of 600 to 1000 mT.

12. (Original) The method as claimed in claim 1, wherein in the step of successively forming the conducting layer and the insulating layer, the insulating layer is formed of an oxide film or a nitride film.

13. (Original) The method as claimed in claim 1, wherein in the step of successively forming the conducting layer and the insulating layer, the conducting layer is made from a material selected from the group consisting of tungsten and tungsten silicide.

14. (Original) The method as claimed in claim 1, wherein the step of etching the first mask pattern to form the second mask pattern is carried out by etching the first mask pattern at an etching rate of less than 3000 Å thickness per minute.

15. (Currently Amended) A method of manufacturing a bit line having a width of not more than 0.1 μm, the method comprising the steps of:

successively forming a conducting layer and an insulating layer on a substrate;

forming a photoresist film on the insulating layer;

patterning the photoresist film using a photolithography process such that a desired region of the insulating layer is exposed to form a first photoresist pattern having a width of at least 0.14 μm;

partially removing the first photoresist pattern by an isotropic dry etching process using plasma dry etching equipment so as to form a second photoresist pattern having a width of

Serial No.: 10/067,265

Atty. Docket No.: P67585US0

not more than $0.1\mu\text{m}$, said isotropic dry etching process being carried out by supplying oxygen gas at a flow rate of approximately 800 sccm, using a microwave energy source having a power less than 400 Watts and at a pressure of approximately 600 to 1,000 mT;

removing a portion of said insulating layer by a first anisotropic dry etching using the second photoresist pattern as a mask, a remaining portion of said insulating layer forming a hard mask;

removing the second photoresist pattern; and

etching the conducting layer by a second anisotropic dry etching using the hard mask so as to form the bit line, said bit line having a same shape as said second photoresist pattern such that said bit line has a width of not more than $0.1\mu\text{m}$.